CLAIM LISTING

1. (original) A method for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the method comprising:

detecting, by an originator unit, a session initiation indication;

sending, by the originator unit in a non-IP format, a session initiation request for the PTT session, to a base station (BS) via a CDMA access channel;

sending, by the originator unit to the BS, a channel assignment request for the PTT session via a CDMA access channel; and

receiving, by the originator unit, messaging in response to the session initiation request.

2. (original) The method of claim 1, wherein the IP-based protocol comprises Session Initiation Protocol (SIP).

3. (original) The method of claim 1, wherein the session initiation request is sent via a short data burst (SDB).

4. (original) The method of claim 1, wherein the session initiation request comprises information from the group consisting of a target identifier, an application identifier, a PTT server address, and originator vocoder information.

5. (original) The method of claim 4, wherein the originator vocoder information comprises information from the group consisting of an indication of supported vocoders and an indication of preferred vocoders.

6. (original) The method of claim 4, wherein the application identifier identifies an application from the group consisting of dispatch, presence, and voice over internet protocol (VoIP).

7. (original) The method of claim 1, wherein the session initiation request comprises a request from the group consisting of a PTT call setup request, a presence information update request, and a VoIP call setup request.

8. (original) The method of claim 7, wherein the PTT call setup request comprises a SIP INVITE message.

9. (original) The method of claim 7, wherein the presence information update request comprises a message from the group consisting of a SIP INVITE message, a SIP INFO message, and a SIP NOTIFY message.

10. (original) The method of claim 1, wherein the session initiation request is included within messaging for the channel assignment request.

11. (original) The method of claim 10, wherein the messaging for the channel assignment request comprises an IS-2000 Reconnect message.

12. (original) The method of claim 1, wherein the channel assignment request comprises an IS-2000 Origination message.

13. (original) The method of claim 1, wherein the messaging in response to the session initiation request is received via a traffic channel assigned in response to the channel assignment request.

14. (original) The method of claim 1, wherein the messaging in response to the session initiation request is received via a CDMA common channel from the group consisting of a CDMA Forward Paging Channel (F-PCH) and a CDMA Forward Common Control Channel (F-CCCH).

15. (original) The method of claim 1, further comprising indicating, upon receiving the messaging in response to the session initiation request, that user voice activity for the PTT call may begin.

16. (original) The method of claim 1, further comprising indicating, upon receiving the messaging in response to the session initiation request, that a PTT target unit is not available.

17. (original) The method of claim 1, further comprising sending and receiving, by the originator unit in an active packet data session, PTT voice information via a traffic channel assigned in response to the channel assignment request.

18. (original) A method for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the method comprising:

maintaining, by a packet control function (PCF), session information relating to a dormant IP data session of an originator unit;

receiving, by the PCF from the originator unit via a base station (BS), a session initiation request in a non-IP format for the PTT session;

generating, by the PCF, an IP-based message using the session information and the session initiation request in a non-IP format; and

sending, by the PCF, the IP-based message to a PTT server.

19. (original) The method of claim 18, wherein the session information comprises information from the group consisting of an IP address corresponding to the originator unit and an IP address corresponding to the PTT server.

20. (original) The method of claim 18, wherein the session initiation request in a non-IP format comprises information from the group consisting of a target identifier, an application identifier, and originator vocoder information.

21. (original) The method of claim 18, wherein the session initiation request in a non-IP format comprises a request from the group consisting of a PTT call setup request, a presence information update request, and a VoIP call setup request.

22. (original) The method of claim 21, wherein the PTT call setup request comprises a SIP INVITE message and wherein the presence information update request comprises a message from the group consisting of a SIP INVITE message, a SIP INFO message, and a SIP NOTIFY message.

23. (original) The method of 18, wherein the session initiation request is received from the BS via A9-Short Data Delivery messaging.

24. (original) The method of 18, wherein the IP-based message comprises an IP packet.

25. (original) The method of 24, wherein the IP-based message comprises an IP packet contained within a Point-to-Point Protocol (PPP) frame.

26. (original) The method of 18, further comprising:

receiving, by the PCF, information in response to the IP-based messaging; and

sending, by the PCF, the information as response messaging to the originator unit via the BS.

27. (original) The method of 26, wherein the response messaging is sent to the BS via A8 messaging.

28 (original) The method of 26, wherein the information comprises an IP packet and the response messaging is in a non-IP format.

29. (currently amended) A method for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the method comprising:

maintaining, by a packet control function (PCF), session information relating to a dormant IP data session of a target unit;

receiving, by the PCF from a PTT server, session initiation request messaging for the target unit for the PTT session;

~~requesting, by the PCF in response to the session initiation request messaging, that the target unit be paged;~~

receiving, by the PCF from a base station (BS), an indication that the target unit responded to a page;

generating, by the PCF in response to the indication that the target unit responded to the page, response messaging using information from the session information and the session initiation request messaging; and

sending, by the PCF, the response messaging to the PTT server.

30. (original) The method of claim 29, wherein the session information comprises information from the group consisting of an IP address corresponding to the target unit and an IP address corresponding to the PTT server.

31. (currently amended) The method of 29, further comprising requesting, by the PCF in response to the session initiation request messaging, that the target unit be paged, wherein the page is for a packet data service.

32. (original) The method of claim 31, wherein the page has a service option of "33".

33. (original) The method of 29, wherein the indication that the target unit responded to the page comprises an indication from the group consisting of a page response indication, a query for PCF information that implies that the target unit responded to a page, and a request to connect the PCF to the BS that implies that the target unit responded to a page.

34. (original) The method of claim 33, wherein the request to connect the PCF to the BS is an A9-Connect-A8 message.

35. (original) The method of 29, wherein the response messaging comprises an IP packet.

36. (original) The method of 35, wherein the response messaging comprises a Point-to-Point Protocol (PPP) frame encapsulating the IP packet.

37. (original) The method of 35, wherein the response messaging comprises a SIP message from the group consisting of a SIP 100 Trying message, a SIP 200 OK message, a SIP INFO message, and a SIP NOTIFY message.

38. (original) The method of 29, further comprising:

after sending the response messaging to the PTT server, sending, by the PCF, information from the session initiation request messaging to the target unit via the BS.

39. (original) The method of 38, wherein the information from the session initiation request messaging is sent to the BS via A8 messaging.

40. (original) The method of claim 29, wherein the session initiation request messaging comprises information from the group consisting of an IP address of the PTT server, an IP address of the target unit, and an application identifier.

41. (original) The method of claim 40, wherein the application identifier identifies an application from the group consisting of dispatch, presence, and Voice over Internet Protocol (VoIP) applications.

42. (original) The method of claim 29, wherein the session initiation request messaging comprises information from the group consisting of a target identifier, an application identifier, and originator vocoder information.

43. (original) The method of claim 29, wherein the session initiation request messaging comprises a request from the group consisting of a PTT call setup request, a presence information update request, and a VoIP call setup request.

44. (original) The method of claim 43, wherein the PTT call setup request comprises a SIP INVITE message and wherein the presence information update request comprises a message from the group consisting of a SIP INVITE message, a SIP INFO message, and a SIP NOTIFY message.

45. (original) A method for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the method comprising:

maintaining, by a packet control function (PCF), session information relating to a dormant IP data session of a target unit;

receiving, by the PCF from a PTT server, session initiation request messaging for the target unit for the PTT session;

requesting, by the PCF in response to the session initiation request messaging, that the target unit be paged;

receiving, by the PCF, an indication that the target unit is unavailable;

generating, by the PCF, responsive to the indication that the target unit is not available, target-not-available messaging using information from the session information and the session initiation request messaging; and

sending, by the PCF, the target-not-available messaging to the PTT server.

46. (original) The method of claim 45, wherein the indication that the target unit is not available comprises an indication that the target unit is busy.

47. (original) The method of claim 46, wherein the indication that the target unit is not available comprises a BS Service Response message with a cause field having a value that indicates "MS busy".

48. (original) The method of claim 45, wherein the target-not-available messaging comprises a message from the group consisting of a SIP 486 Busy Here message, a SIP INFO message, and a SIP Notify message.

49. (original) A mobile station (MS) for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the MS comprising:

a transceiver; and

a processor, communicatively coupled to the transceiver,

adapted to detect a session initiation indication,

adapted to send, to a base station (BS) via the transceiver and a CDMA access channel, a session initiation request in a non-IP format for the PTT session,

adapted to send, to the BS via the transceiver and a CDMA access channel, a channel assignment request for the PTT session, and

adapted to receive, via the transceiver, messaging in response to the session initiation request in a non-IP format.

50. (original) A packet control function (PCF) for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the PCF comprising:

a PCF network interface adapted to send and receive messaging using at least one communication protocol;

a processor, communicatively coupled to the PCF network interface,

adapted to maintain session information relating to a dormant IP data session of an originator unit,

adapted to receive, from the originator unit via a base station (BS) and the PCF network interface, a session initiation request in a non-IP format for the PTT session,

adapted to generate an IP-based message using the session information and the session initiation request in a non-IP format, and

adapted to send, via the PCF network interface, the IP-based message to a PTT server.

51. (original) A packet control function (PCF) for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the PCF comprising:

a PCF network interface adapted to send and receive messaging using at least one communication protocol;

a processor, communicatively coupled to the PCF network interface,

adapted to maintain session information relating to a dormant IP data session of a target unit,

adapted to receive, from a PTT server via the PCF network interface, session initiation request messaging for the target unit for the PTT session,

adapted to request, via the PCF network interface in response to the session initiation request messaging, that the target unit be paged,

adapted to receive, from a base station (BS) via the PCF network interface, an indication that the target unit responded to a page,

adapted to generate, in response to the indication that the target unit responded to the page, response messaging using information from the session information and the session initiation request messaging, and

adapted to send, via the PCF network interface, the response messaging to the PTT server.

52. (original) A packet control function (PCF) for facilitating a push-to-talk (PTT) session initiation using an Internet Protocol (IP)-based protocol, the PCF comprising:

a PCF network interface adapted to send and receive messaging using at least one communication protocol;

a processor, communicatively coupled to the PCF network interface,

adapted to maintain session information relating to a dormant IP data session of a target unit;

adapted to receive, from a PTT server via the PCF network interface, session initiation request messaging for the target unit for the PTT session;

adapted to request, via the PCF network in response to the session initiation request messaging, that the target unit be paged;

adapted to receive, via the PCF network, an indication that the target unit is unavailable;

adapted to generate, responsive to the indication that the target unit is not available, target-not-available messaging using information from the session information and the session initiation request messaging; and

adapted to send, via the PCF network, the target-not-available messaging to the PTT server.